PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

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PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing (*day/month/year*)	12 SEP 2008
Applicant's or agent's file reference 5087-1088	**FOR FURTHER ACTION** See paragraph 2 below

International application No.	International filing date (*day/month/year*)	Priority date (*day/month/year*)
PCT/US 08/60681	17 April 2008 (17.04.2008)	17 April 2007 (17.04.2007)

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - G11C 11/34 (2008.04)
USPC - 365/185.2

Applicant CYPRESS SEMICONDUCTOR CORPORATION

1. This opinion contains indications relating to the following items:

- [x] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [x] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	09 September 2008 (09.09.2008)	Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

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Box No. I **Basis of this opinion**

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into ______________ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of:

   a. type of material

      ☐ a sequence listing

      ☐ table(s) related to the sequence listing

   b. format of material

      ☐ on paper

      ☐ in electronic form

   c. time of filing/furnishing

      ☐ contained in the international application as filed

      ☐ filed together with the international application in electronic form

      ☐ furnished subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

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Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	None	YES
	Claims	1-20	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-20	NO
Industrial applicability (IA)	Claims	1-20	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-20 lack novelty under PCT Article 33(2) as being anticipated by US 7,034,603 B2 to Brady et al. (hereinafter Brady).

As to claim 1, Brady teaches a system comprising: a controllable voltage generator to generate a power supply voltage (col. 6., ln. 47-48); a system controller to determine a voltage level associated with the power supply voltage (col 6, ln. 61-62), and prompt the controllable voltage generator to generate the power supply voltage with the determined voltage level (col 6, ln. 61-62); and a floating gate reference device to generate an absolute voltage reference based, at least in part, on the voltage level associated with the power supply voltage (abstract, col. 6, ln. 54-55).

As to claim 2, Brady teaches a system, where the system controller is operable to generate voltage control signals identifying the voltage level for the power supply voltage (col. 6., ln. 47-48), and the controllable voltage generator to generate the power supply voltage according to voltage control signals (col 6, ln. 61-62).

As to claim 3, Brady teaches a system, including a comparator to compare the absolute voltage reference with a reference voltage and to generate a feedback signal according to the comparison (abstract, col. 6, ln. 66-67), the system controller to generate the voltage control signals based, at least in part, on the feedback signal (col. 11, ln. 66-67, col. 12, ln. 1-4).

As to claim 4, Brady teaches a system, where the system controller is operable to receive the absolute voltage reference from the floating gate reference device and to generate the voltage control signals based, at least in part, on the absolute voltage reference (col. 8, ln. 27-29).

As to claim 5, Brady teaches a system, including analog circuitry to perform one or more electrical operations responsive to the absolute voltage reference (col. 8, ln. 27-29), where the system controller is operable to generate voltage control signals based, at least in part, on operational characteristics of the analog circuitry and the absolute voltage reference (abstract).

As to claim 6, Brady teaches a system, where the floating gate reference device includes: a tunneling device to generate a current according to the power supply voltage from the controllable voltage generator (col.8, ln. 18-21); a storage capacitor to store a floating voltage where charged by the current from the tunneling device and an output buffer to buffer the floating voltage and output the buffered floating voltage as the absolute reference voltage (col. 7, ln. 50-53).

As to claim 7, Brady teaches a system, where the tunneling device is a transistor with a bulk region, source region, and drain region connected to receive the power supply voltage (col. 6, ln.46-50), where the tunneling device is operable to provide the current to a gate region of the transistor when the power supply voltage exceeds a threshold voltage level (col. 8, ln. 27-29).

As to claim 8, Brady teaches a method comprising: determining a voltage level associated with a power supply voltage (col. 6, ln. 61-62); generating the power supply voltage to the determined voltage level (col. 6, ln. 61-62); and generating an absolute voltage reference with a floating gate reference device based, at least in part, on the voltage level associated with the power supply voltage (abstract, col. 6, ln. 54-55).

As to claim 9, Brady teaches a method, further includes: generating voltage control signals identifying the voltage level associated with the power supply voltage responsive to the determining (col. 6., ln. 47-48); and generating the power supply voltage according to voltage control signals (col 6, ln. 61-62)

As to claim 10, Brady teaches a method which includes: receiving the absolute voltage reference from the floating gate reference device (abstract, col. 6, ln. 66-67); and generating the voltage signals based, at least in part, on the absolute voltage reference (col. 11, ln. 66-67, col. 12, ln. 1-4).

As to claim 11, Brady teaches a method, further includes: comparing the absolute voltage reference with a reference voltage; generating a feedback signal according to the comparison of the absolute voltage reference and the reference voltage (abstract, col. 6, ln. 66-67); and generating the voltage control signals based, at least in part, on the feedback signal (col. 11, ln. 66-67, col. 12, ln. 1-4).

--(Continued in Supplemental Box)--

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:
Box V, 2. Citations and explanations:

As to claim 12, Brady teaches a method, further includes providing the absolute voltage reference to analog circuitry, the analog circuitry to perform one or more electrical operations responsive to the absolute voltage reference (abstract).

As to claim 13, Brady teaches a method, further includes generating voltage control signals based, at least in part, on operational characteristics of the analog circuitry (abstract, col. 9, ln. 27-34).

As to claim 14, Brady teaches a system comprising: A system controller to determine a voltage level associated with a controllable power supply voltage (col. 6, ln. 61-62); a floating gate reference device to generate an absolute voltage reference based, at least in part, on the controllable power supply voltage (abstract, col. 6, ln. 54-55); and analog circuitry to perform one ore more electrical operations responsive to the absolute voltage reference from the floating gate reference device (abstract, col. 9, ln. 27-34).

As to claim 15, Brady teaches a system, where the system controller is operable to receive the absolute voltage reference from the floating gate reference device (abstract, col. 6, ln. 66-67) and to generate the voltage control signals based, at least in part, on the absolute voltage reference (col. 11, ln. 66-67, col. 12, ln. 1-4).

As to claim 16, Brady teaches a system, including a comparator to compare the absolute voltage reference with a reference voltage and to generate a feedback signal according to the comparison (abstract, col. 6, ln. 66-67), the system controller to generate the voltage control signals based, at least in part, on the feedback signal (col. 11, ln. 66-67, col. 12, ln. 1-4).

As to claim 17, Brady teaches a system, where the system controller is operable to generate voltage control signals based, at least in part, on operational characteristics of the analog circuitry and the feedback signal (abstract).

As to claim 18, Brady teaches a system, where the floating gate reference device includes: a tunneling device to generate a current according to the controllable power supply voltage (col.8, ln. 18-21); a storage element to store a floating voltage when charged by the current from the tunneling device; and an output buffer coupled to the storage element and the tunneling device, the out put buffer to buffer the floating voltage and to output the buffered floating voltage as the absolute reference voltage (col. 7, ln. 50-53).

As to claim 19, Brady teaches a system, where the tunneling device is a transistor with a bulk region, source region, and drain region connected to receive the controllable power supply voltage (col. 6, ln.46-50), where the tunneling device is operable to provide the current to a gate region of the transistor when the controllable power supply voltage exceeds a threshold voltage level (col. 8, ln. 27-29).

As to claim 20, Brady teaches a system, where a voltage level of the floating voltage corresponds to a size of the storage element and the current from the tunneling device (col.8, ln. 18-21).

Claims 1 - 20 have industrial applicability as defined by PCT Article 33(4) because the subject matter can be made or used in industry.